***Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***

***Calculating Simple Interest***

When you borrow money from a bank, the amount you borrow is called

the **Principal, P.** The amount you pay for the use of the money you borrowed

is called the **Interest, I.** The amount of interest you pay depends on the

amount you borrow, the interest **rate in percent, R,** and the **Time**, **T**, or length of

time you borrow the money in years.

In this worksheet, you will learn how to calculate simple interest using a

building blocks method that proceeds from simple calculations to complex.

Use the formula **I=PRT**

* “P” is the Principal and is the amount you borrow; “R” is the interest Rate in percent; “T” is the Time in years.

**Building Block 1 (Basic formula) - Example**

Amy Ni wants to borrow, $450.00 at 6% for 2 years. Find the interest in dollars that Amy will have to repay and the total amount, principal plus interest Amy will repay.

Amy will use the formula: I = (P)(R)(T) to find the interest in dollars she will repay. Amy knows that 6% = 6/100 or .06. Thus, I = P R T equals (450)(.06)(2) or $54.00. Amy will pay back $504.00 when the loan is due. *(Note that 2 years was not expressed as 24 months!)* To multiply by 24 would have been saying that Amy had the loan for 24 years.

**Practice Set #1**

Calculate the amount of interest and the amount to repay in the table below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number | Principal | Rate | Time | Interest | Amount to Repay |
| Example | $450 | 6% | 2 years | $54.00 | $504.00 |
| 1 | $4500 | 9% | 6 years |  |  |
| 2 | $800 | 5% | 3 years |  |  |
| 3 | $3,000 | 10% | 5 years |  |  |
| 4 | $9,500 | 12% | 2 years |  |  |
| 5 | $1,000 | 10% | 1 years |  |  |
| 6 | $45,280.00 | 14% | 8 years |  |  |

**Building Block 2 (When Time is less than a year)**

When the time of the loan is less than a year, Time has to be expressed as parts of a year. Taylor Price needs to borrow $300 for 6 months. If the interest rate is 6% how much will Taylor pay in interest? How much will Taylor repay?

Taylor will use the formula: I = (P)(R)(T) to find the interest she will pay. But first, she will convert six (6) months as a fraction of a year. There are 12 months in a year, so Taylor will have the loan for 6/12 or ½, or .5 of the year. Thus, Taylor will multiply $300 \* .5 \* .06 to find that she will owe $9.

**Practice Set #2**

What fraction of a year are the following times, assuming there are **360** days in

a year?

1. 180 days \_\_\_\_\_\_\_\_\_

2. 90 days \_\_\_\_\_\_\_\_

3. 365 days \_\_\_\_\_\_\_\_

4. 3 months \_\_\_\_\_\_\_\_

5. 9 months \_\_\_\_\_\_\_\_

**Practice Set #3**

Complete the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Principal | Rate | Time | Interest |
| Ex. | $300 | 6% | 6 months | $9 |
| 1 | $4500 | 9% | 180 days |  |
| 2 | $800 | 5% | 90 days |  |
| 3 | $3,000 | 10% | 365 days |  |
| 4 | $9,500 | 12% | 3 months |  |
| 5 | $1,000 | 10% | 9 months |  |
| 6 | $45,280 | 14% | 6 months |  |